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10/634,235

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Peter Bernhardt

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EXAMINER

GARCIA, ERNESTO

ART UNIT

PAPER NUMBER

3679

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE | DELIVERY MODE |
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3 MONTHS

02/09/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/634,235

Applicant(s)

BERNHARDT, PETER

Examiner

Ernesto Garcia

Art Unit

3679

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 December 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 6-9, 11-13 and 15-28 is/are pending in the application.
- 4a) Of the above claim(s) 16-18 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 6-9, 11-13, 15 and 19-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on December 21, 2006 has been entered.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Election/Restrictions

Claims 16-18 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on December 21, 2006.

Claim Rejections - 35 USC § 112

Claims 19-23 and 26-28 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 19, the metes and bounds of the claim is unclear. In particular, it is unclear what dimensions are being sought. Since the dimensions are being defined "prior to mounting of said vehicle component to said ball joint" in line 16-18, how can the dimensions remain as claimed when line 4 calls for the ball joint having the vehicle component mounted thereto. In practice, the dimensions change when the ball has the vehicle component mounted thereto. Note that in Figure 2, the dimension of the holding surface is the same as the dimension of the sealing surface when the vehicle component is mounted to the ball joint, or vice versa. Do the dimensions remain as claimed when the vehicle component is mounted to the ball joint as required by line 4?

Regarding claim 28, the metes and bounds of the claim is unclear. In particular, it is unclear what this claim sets forth. Is it only when the vehicle component is mounted that the limitations apply. Further, according to claim 19, line 4, the vehicle component is mounted to the ball joint; therefore, it is inherent that the dimension compresses. Therefore, it is unclear what structure this claim defines or further limits.

Regarding claims 20-23, 26, and 27, the claims depend from claim 19 and therefore are indefinite.

Double Patenting

Applicant is advised that should claim 21 be found allowable, claim 27 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 6, 7, and 24 are rejected under 35 U.S.C. 102(e) as being anticipated by Modat, 6,488,436.

Regarding claim 6, Modat discloses, in Figure 1, a ball joint defines an axis and includes a housing **4**, a ball stud **1**, and a sealing bellows **7**. The ball stud **1** has a ball head **2**. The sealing bellows **7** lies against the housing **4** and the ball stud **1**. The ball stud **1** has a generally axially extending holding surface **A1** (see marked-up attachment) against which a sealing surface **A2** of the sealing bellows **7** lies, and a generally radially extending contact surface **A3**. The holding surface **A1** is delimited towards the ball head **2** by a generally extending shoulder **A7**, which forms a generally radially extending surface. The sealing surface **A2** defines a first axial dimension **A4**. The holding surface **A1** defines a second axial dimension **A5** between the extending shoulder and the contact surface **A3**. The first axial dimension **A4** is greater than the second axial dimension **A5**.

Regarding claim 7, the holding surface **A1** and the sealing surface **A2** are cylindrical (note that the sealing surface has three conical portions and one cylindrical portion).

Regarding claim 24, the contact surface **A3** and the abutment surface **A7** of the shoulder extend generally parallel to each other. Note that the surfaces extend at an angle and thus the surfaces extend axially and radially. Since either surface has extends axially and radially, they extend generally parallel to each other.

Claim Rejections - 35 USC § 103

Claims 8 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Modat, 6,488,436, in view of Broszat et al., 5,152,628.

Regarding claim 8, Modat, as discussed, fails to disclose the sealing bellows 7 provided with a metal ring urging the sealing surface A2 against the holding surface A1. Broszat et al. teach, in Figure 1, a sealing bellows 17 provided with a metal ring 20 urging a sealing surface against a holding surface as customary to prevent the sealing bellows from being disengaged.

Regarding claim 12, Modat discloses, in Figure 1, a ball joint defines an axis and includes a housing 4, a ball stud 1, and a sealing bellows 7. The ball stud 1 has a ball head 2. The sealing bellows 7 lies against the housing 4 and the ball stud 1. The ball stud 1 has a generally axially extending holding surface A1 (see marked-up attachment) against which a sealing surface A2 of the sealing bellows 7 lies, and a generally radially extending contact surface A3. The holding surface A1 is delimited towards the ball head 2 by a generally extending shoulder A7, which forms a generally radially extending surface. The sealing surface A2 defines a first axial dimension A4. The holding surface A1 defines a second axial dimension A5 between the extending shoulder and the contact surface A3. The first axial dimension A4 is greater than the second axial

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dimension **A5**. The holding surface **A1** and the sealing surface **A2** are cylindrical (note that the sealing surface has three conical portions and one cylindrical portion).

Modat, as discussed, fails to disclose the sealing bellows **7** provided with a metal ring urging the sealing surface **A2** against the holding surface **A1**. Broszat et al. teach, in Figure 1, a sealing bellows **17** provided with a metal ring **20** urging a sealing surface against a holding surface as customary to prevent the sealing bellows from being disengaged.

Regarding claim 25, the contact surface **A3** and the abutment surface **A7** of the shoulder extend generally parallel to each other. Note that the surfaces extend at an angle and thus the surfaces extend axially and radially. Since either surface has extends axially and radially, they extend generally parallel to each other.

Claims 9 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Modat, 6,488,436, in view of Buhl et al., 5,312,200.

Regarding claim 9, Modat, as discussed, fails to disclose the ball joint further including a vehicle component mounted to the ball joint and a contact surface of the vehicle component being provided so as to adjoin the holding surface **A1** on a side of the holding surface **A1** facing away from the housing **1**. Buhl et al. teach, in Figure 1, a ball joint further including a vehicle component **6** and a contact surface of the vehicle

component 6 is provided so as to adjoin a holding surface on a side of the holding surface as part of an application of the ball joint to connect motor parts. Therefore, as taught by Buhl et al., it would have been obvious to one of ordinary skill in the art at the time the invention was made to further include a vehicle component mounted to the ball joint to connect motor parts.

Regarding claim 11, Modat, as discussed, discloses the sealing bellows 7 dimensioned such that the sealing bellows cannot slip off from the holding surface A1 when a ball joint is not mounted to a vehicle component. However, Modat fails to disclose the ball joint further including the vehicle component mounted to the ball joint. Buhl et al. teach, in Figure 1, a ball joint further including a vehicle component 6 and a contact surface of the vehicle component 6 is provided so as to adjoin a holding surface on a side of the holding surface as part of an application of the ball joint to connect motor parts. Therefore, as taught by Buhl et al., it would have been obvious to one of ordinary skill in the art at the time the invention was made to further include a vehicle component mounted to the ball joint to connect motor parts.

Claims 13 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Modat, 6,488,436, in view of Broszat et al., 5,152,628, as applied to claims 8, 12, and 25, and further in view of Buhl et al., 5,312,200.

Regarding claim 13, Modat, as modified, fails to disclose the ball joint further including a vehicle component mounted to the ball joint and a contact surface of the vehicle component being provided so as to adjoin the holding surface **A1** on a side of the holding surface **A1** facing away from the housing **1**. Buhl et al. teach, in Figure 1, a ball joint further including a vehicle component **6** and a contact surface of the vehicle component **6** is provided so as to adjoin a holding surface on a side of the holding surface as part of an application of the ball joint to connect motor parts. Therefore, as taught by Buhl et al., it would have been obvious to one of ordinary skill in the art at the time the invention was made to further include a vehicle component mounted to the ball joint to connect motor parts.

Regarding claim 15, Modat, as modified, discloses the sealing bellows **7** dimensioned such that the sealing bellows cannot slip off from the holding surface **A1** when a ball joint is not mounted to a vehicle component. However, Modat fails to disclose the ball joint further including the vehicle component mounted to the ball joint. Buhl et al. teach, in Figure 1, a ball joint further including a vehicle component **6** and a contact surface of the vehicle component **6** is provided so as to adjoin a holding surface on a side of the holding surface as part of an application of the ball joint to connect motor parts. Therefore, as taught by Buhl et al., it would have been obvious to one of ordinary skill in the art at the time the invention was made to further include a vehicle component mounted to the ball joint to connect motor parts.

Claims 6-9, 11-13, 15, and 19-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Broszat et al., 5,152,628, in view of Pazdirek et al., 5,6009,433.

Regarding claim 6, Broszat et al. discloses, in Figure 2, a ball joint defines an axis and includes a housing **7**, a ball stud **3**, and a sealing bellows **17**. The ball stud **3** has a ball head **1**. The sealing bellows **17** lies against the housing **7** and the ball stud **3**. The ball stud **3** has a generally axially extending holding surface **A1** (see marked-up attachment) against which a sealing surface **A2** of the sealing bellows **17** lies, and a generally radially extending contact surface **A3**. The holding surface **A1** is delimited towards the ball head **1** by a generally extending shoulder **A7**, which forms a generally radially extending surface. The sealing surface **A2** defines a first axial dimension **A4**. The holding surface **A1** defines a second axial dimension **A5** between the extending shoulder and the contact surface **A3**. However, Broszat et al. fails to disclose the first axial dimension **A4** being greater than the second axial dimension **A5**. Pazdirek et al. teach, in Figure 2, an axial dimension of a sealing surface being greater than a second axial dimension of a holding surface. Pazdirek et al. does not state the reason for providing such dimension; however, it appears that the dimensions occur due to the compression of the mounting ring 52, or the sealing surface is dimension so that the sealing bellows is compressed between a component to be mounted on a shank 20 and a contact surface. Therefore, as taught by Pazdirek et al., it would have been obvious to one of ordinary skill in the art at the time the invention was made to make the axial dimension of the sealing surface of Broszat et al. be greater than the second axial

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dimension of the holding surface to compress the sealing bellows between the contact surface and a component to be mounted on the threaded shank.

Regarding claims 7 and 20, the holding surface **A1** and the sealing surface **A2** are cylindrical.

Regarding claims 8, 21, and 27, the sealing bellows **17** is provided with a metal ring **20**, which urges the sealing surface **A2** against the holding surface **A1**.

Regarding claims 9 and 13, the ball joint further includes a vehicle component **21** mounted to the ball joint. A contact surface of the vehicle component **21** is provided so as to adjoin the holding surface **A1** on a side of the holding surface facing away from the housing **7**.

Regarding claims 11 and 15, the ball joint further includes a vehicle component **21** mounted to the ball joint. The sealing bellows **17** is dimensioned such that the sealing bellows **17** cannot slip off from the holding surface **A1** when the ball joint is not mounted to the vehicle component **17**.

Regarding claim 12, Broszat et al. discloses, in Figure 2, a ball joint defines an axis and includes a housing **7**, a ball stud **3**, a sealing bellows **17**, and a metal ring **20**. The ball stud **3** has a ball head **1**. The sealing bellows **17** lies against the housing **7** and

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the ball stud **3**. The ball stud **3** has a generally axially extending cylindrical holding surface **A1** (see marked-up attachment) against which a cylindrical sealing surface **A2** of the sealing bellows **17** lies, and a generally radially extending contact surface **A3**. The holding surface **A1** is delimited towards the ball head **1** by a generally extending shoulder **A7**, which forms a generally radially extending surface. The sealing surface **A2** defines a first axial dimension **A4**. The holding surface **A1** defines a second axial dimension **A5** between the extending shoulder and the contact surface **A3**. The metal ring **20** urges the sealing surface **A2** against the holding surface **A1**. However, Broszat et al. fails to disclose the first axial dimension **A4** being greater than the second axial dimension **A5**. Pazdirek et al. teach, in Figure 2, an axial dimension of a sealing surface being greater than a second axial dimension of a holding surface. Pazdirek et al. does not state the reason for providing such dimension; however, it appears that the dimensions occur due to the compression of the mounting ring **52**, or the sealing surface is dimension so that the sealing bellows is compressed between a component to be mounted on a shank **20** and a contact surface. Therefore, as taught by Pazdirek et al., it would have been obvious to one of ordinary skill in the art at the time the invention was made to make the axial dimension of the sealing surface of Broszat et al. be greater than the second axial dimension of the holding surface to compress the sealing bellows between the contact surface and a component to be mounted on the threaded shank.

Regarding claim 19, Broszat et al. discloses, in Figure 2, a ball joint and vehicle assembly. The assembly comprises a vehicle component **21** and a ball joint. The ball joint has the vehicle component **21** mounted thereto. The ball joint defines an axis and includes a housing **7**, a ball stud **3**, and a sealing bellows **17**. The ball stud **3** has a ball head **1**. The sealing bellows **17** lies against the housing **7** and the ball stud **3**. The ball stud **3** has a generally axially extending holding surface **A1** (see marked-up attachment) against which a sealing surface **A2** of the sealing bellows **17** lies, and a generally radially extending contact surface **A3**. The holding surface **A1** is delimited towards the ball head **1** by a generally extending shoulder **A7**, which forms a generally radially extending surface. The sealing surface **A2** defines a first axial dimension **A4**. The holding surface **A1** defines a second axial dimension **A5** between the extending shoulder and the contact surface **A3**. However, Broszat et al. fails to disclose the first axial dimension **A4** being greater than the second axial dimension **A5** prior to mounting the vehicle component **21** to the ball joint. Pazdirek et al. teach, in Figure 2, an axial dimension of a sealing surface being greater than a second axial dimension of a holding surface. Pazdirek et al. does not state the reason for providing such dimension; however, it appears that the dimensions occur due to the compression of the mounting ring **52**, or the sealing surface is dimension so that the sealing bellows is compressed between a component to be mounted on a shank **20** and a contact surface. Therefore, as taught by Pazdirek et al., it would have been obvious to one of ordinary skill in the art at the time the invention was made to make the axial dimension of the sealing surface of Broszat et al. be greater than the second axial dimension of the holding surface prior

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to mounting the vehicle component of Broszat et al. to the ball joint to compress the sealing bellows between the contact surface and a component to be mounted on the threaded shank.

Regarding claim 22, a contact surface of the vehicle component **21** is provided so as to adjoin the holding surface **A1** on a side of the holding surface facing away from the housing **7**.

Regarding claim 23, the sealing bellows **17** is dimensioned such that the sealing bellows **17** cannot slip off from the holding surface **A1** when the ball joint is not mounted to the vehicle component **17**.

Regarding claims 24 and 26, the contact surface **A3** and the abutment surface **A7** of the shoulder extend generally parallel to each other.

Regarding claim 28, as best understood, the vehicle component **21** engages an outer end of the sealing bellows **17**.

Response to Arguments

Applicant's arguments with respect to claims 6-9, 12-13, 15, and 19-27 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

The following prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Japanese patent, 3-56708, shows a similar ball joint and assembly (see translation provided).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ernesto Garcia whose telephone number is 571-282-7083. The examiner can normally be reached from 9:30-5:30. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel P. Stodola can be reached at 571-272-7087.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

E.G.
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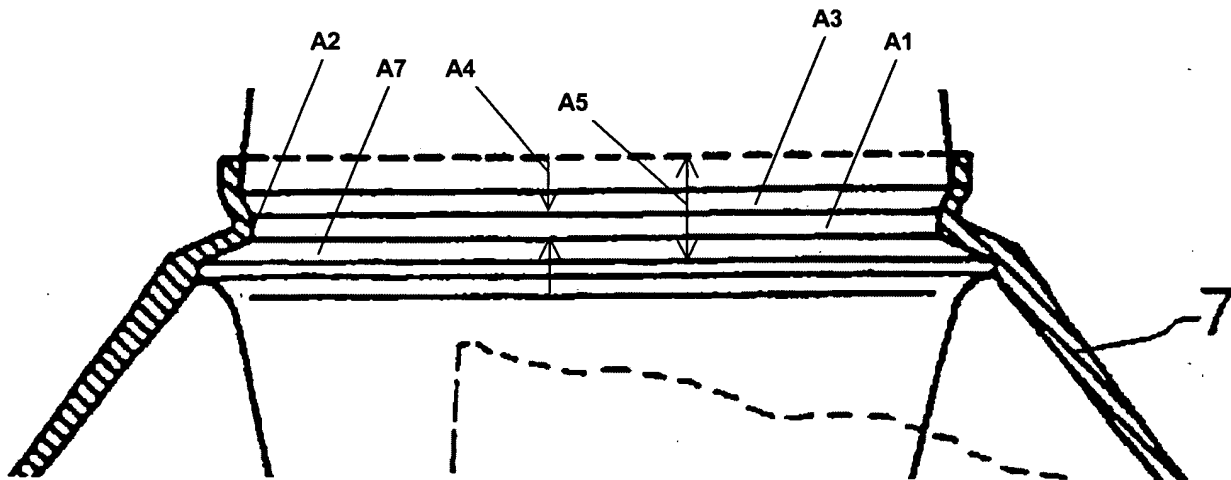
February 5, 2007

Attachments: one marked-up page of Modat, 6,488,436
one marked-up page of Broszat et al., 5,152,628

DANIEL P. STODOLA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600

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Modat, 6,488,436.



Broszat et al., 5,152,628

